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<Abstract>

Assessment of the cross-sectional area of the erector spinae muscles (ESM_{CSA}) by computed tomography (CT) can be used to evaluate sarcopenia and cachexia in patients with lung diseases. The aim of this study was to confirm whether serial changes in ESM_{CSA} are associated with survival in patients with idiopathic pulmonary fibrosis (IPF). Data from consecutive patients with IPF who were referred to a single centre were retrospectively reviewed. We measured the ESM_{CSA} at the level of the 12th thoracic vertebra on CT images at referral and 6 months later (n=119). The follow-up time was from 817−1633 days (median, 1335 days) and 59 patients (49.6%) died. A univariate Cox regression analysis showed that the decline in % predicted forced vital capacity (FVC) (Hazard ratios [HR] 1.041, 95% confidence interval [CI] 1.013–1.069, P = 0.004), the decline in body mass index (BMI) (HR 1.084, 95% CI 1.037–1.128; P < 0.001) and that in ESM_{CSA} (HR 1.057, 95% CI 1.027–1.086; P < 0.001) were prognostic factors. For multivariate analyses, the decline in ESM_{CSA} (HR 1.039, 95% CI 1.007–1.071, P =0.015) was a significant prognostic factor, while those in % FVC and BMI were discarded. Serial changes in ESM_{CSA} might be a useful predictor of the prognosis patients with IPF.